

## WHAT IS CLAIMED IS:

1. In an apparatus for treating cytological or histological specimens, said apparatus having multiple processing stations and a transport device for delivering said specimens or object holders carrying said specimens into and out of said processing stations, the improvement comprising:
- said transport device comprises a robot arm that is movable in three dimensions and provides for arbitrary positioning of the objects.
2. The improvement as defined in Claim 1, wherein said robot arm comprises at its free end at least one gripper for receiving said specimen or said object holder carrying said specimen.
3. The improvement as defined in Claim 2, wherein said gripper is rotatable.
4. The improvement as defined in Claim 2, wherein said gripper is lowerable.
5. The improvement as defined in Claim 2, wherein said gripper is actuatable via said robot arm.
6. The improvement as defined in Claim 1, wherein said robot arm is arranged rotatably on a linear shaft.
7. The improvement as defined in Claim 6, wherein said linear shaft is vertically oriented.
8. The improvement as defined in Claim 7, wherein said robot arm is arranged rotatably at an upper end of said linear shaft.

9. The improvement as defined in Claim 7, wherein said robot arm is vertically displaceable along said linear shaft.
10. The improvement as defined in Claims 7, wherein said linear shaft is height-adjustable.
11. The improvement as defined in Claim 10, wherein said linear shaft is height-adjustable in telescoping fashion.
12. The improvement as defined in Claim 7, wherein said linear shaft is shiftable in its position.
13. The improvement as defined in Claim 2, wherein said robot arm (5) comprises first and second partial arms joined pivotably to one another.
14. The improvement as defined in Claim 13, wherein said first and second partial arms and said gripper are rotationally driven via drive belts.
15. The improvement as defined in Claim 13, wherein said first partial arm is articulated on said linear shaft and has associated with it a drive for rotating said first and second partial arms.
16. The improvement as defined in Claim 15, wherein said drive is further operable for rotating said gripper.
17. The improvement as defined in Claim 15, wherein said drive is further operable for actuating said gripper.

18. The improvement as defined in Claim 13, wherein said first the partial arm is articulated on said linear shaft and has associated with it independent drives for rotating said first and second partial arms.
- 5 19. The improvement as defined in Claim 18, wherein said drives are further operable for rotating said gripper.
20. The improvement as defined in Claim 18, wherein said drives are further operable for actuating said gripper.
- 10 21. The improvement as defined in Claim 2, wherein said gripper comprises receiving means for receiving said object holder.
22. The improvement as defined in Claim 21, wherein said receiving means are configured in such a way that said gripper can be moved or placed onto said object holder from above, and said object holder is in that context receivable.
- 15 23. The improvement as defined in Claim 22, wherein said receiving means comprise snap-lock means.
- 20 24. The improvement as defined in Claim 22, wherein said receiving means comprise closure means for closing about a portion of said object holder.
- 25 25. The improvement as defined in Claim 1, wherein said robot arm comprises at its free end two grippers (6) for concurrent reception of two said object holders.
26. The improvement as defined in Claim 25, wherein said two grippers comprise a common drive.

27. The improvement as defined in Claim 25, characterized in that said two grippers comprise two mutually independent drives.
28. The improvement as defined in Claim 1, wherein said apparatus is an automatic stainer, said processing stations each comprising a vessel for receiving liquids and for immersion of said specimens or said object holders carrying said specimens.